AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims:

Please amend the claims as follows:

1. (Currently amended) A process for preparing a hydrogenated conjugated diene block copolymer comprising the steps of:

(a) charging a solvent, a microstructure control agent, and an alkenyl aromatic hydrocarbon monomer into a first reactor forming an admixture of solvent, a microstructure control agent, and an alkenyl aromatic hydrocarbon monomer wherein the microstructure control agent is selected from the group consisting of cyclic ethers, aliphatic monoethers, aliphatic polyethers, tertiary amine compounds, and mixtures thereof and wherein the concentration of the microstructure control agent is from about 5 to about 10 weight percent;

(b) titrating the admixture of solvent, microstructure control agent, and alkenyl aromatic monomer ~~using~~ by adding an anionic polymerization initiator incrementally to consume the impurities prior to initiating the polymerization reaction;

(c) charging a prescribed amount of anionic polymerization initiator to support the polymerization process in order to form a living polymer;

(~~c~~d) allowing sufficient time for the living polymer to react with and incorporate the alkenyl aromatic monomer;

(~~d~~e) charging a conjugated diene monomer into the first reactor;

(~~e~~f) allowing sufficient time for the living polymer to react with and incorporate the conjugated diene monomer to form a living block copolymer; ~~and~~

(g) charging an alkenyl aromatic hydrocarbon monomer into the first reactor;

(h) allowing sufficient time for the living block copolymer to react with and incorporate the alkenyl aromatic monomer;

(i) terminating the living block copolymer using a terminating agent;

(j) transferring the terminated block copolymer to a second reactor; and

(~~j~~k) hydrogenating the living block copolymer to form a hydrogenated conjugated diene block copolymer using a cobalt hydrogenation catalyst.

2. (Original) The process of Claim 1 wherein the microstructure control agent is present in a concentration such that the rate of polymer chain propagation substantially exceeds the rate of chain die-out.

3. (Original) The process of Claim 2 wherein the microstructure control agent is diethyl ether.

4. (Original) The process of Claim 3 wherein the diethyl ether is present in step (a) at a concentration of from about 6 to about 9 percent.

5. (Original) The process of Claim 4 wherein the diethyl ether is present in step (a) at a concentration of about 8 percent.

6. (Canceled)

7. (Currently amended) The process of Claim ~~6~~ 1 wherein the termination is accomplished using methanol as a termination agent.

8. (Canceled)

9. (Canceled)

10. (Canceled)

11. (Original) The process of Claim 2 wherein the alkenyl aromatic hydrocarbon is styrene.

12. (Original) The process of Claim 11 wherein the conjugated diene monomer is butadiene.

13. (Original) The process of Claim 12 wherein the block copolymer is a triblock having a structure of styrene-butadiene-styrene.

14. (Original) The process of Claim 12 wherein the anionic polymerization initiator is sec-butyl lithium.

15. (Canceled)

16. (Previously presented) The process of Claim 1 wherein the microstructure control agent is an aliphatic monoether selected from the group consisting of diethyl ether, dimethyl ether, dibutyl ether and mixtures thereof.

17. (Previously presented) The process of Claim 1 wherein the microstructure control agent is a cyclic ether selected from the group consisting of tetrahydrofuran, tetrahydropyran, 1,4-dioxane and mixtures thereof.

18. (Previously presented) The process of Claim 1 wherein the microstructure control agent is an aliphatic polyether selected from the group consisting of ethylene glycol dimethyl ether, ethylene glycol diethyl ether, ethylene glycol dibutyl ether, diethylene glycol diethyl ether, diethylene glycol dibutyl ether and mixtures thereof.

19. (Previously presented) The process of Claim 1 wherein the microstructure control agent is a tertiary amine compound selected from the group consisting of triethyl amine, tripropyl amine, tributyl amine and mixtures thereof.

20. (New) A process for preparing a hydrogenated conjugated diene block copolymer comprising the steps of:

(a) charging a solvent, a microstructure control agent, and an alkenyl aromatic hydrocarbon monomer into a first reactor forming an admixture of solvent, a microstructure control agent, and an alkenyl aromatic hydrocarbon monomer wherein the microstructure control agent is selected from the group consisting of cyclic ethers, aliphatic monoethers, aliphatic polyethers, tertiary amine compounds, and mixtures thereof and wherein the concentration of the microstructure control agent is from about 5 to about 10 weight percent;

(b) titrating the admixture of solvent, microstructure control agent, and alkenyl aromatic monomer by adding an anionic polymerization initiator incrementally to consume the impurities prior to initiating the polymerization reaction;

(c) charging a prescribed amount of anionic polymerization initiator to support the polymerization process in order to form a living polymer;

(d) allowing sufficient time for the living polymer to react with and incorporate the alkenyl aromatic monomer;

(e) charging a conjugated diene monomer into the first reactor;

(f) allowing sufficient time for the living polymer to react with and incorporate the conjugated diene monomer to form a living block copolymer;

(g) adding a coupling agent to the living block copolymer in the first reactor;

(h) allowing sufficient time for the living block copolymer to couple;

(i) transferring the coupled block copolymer to a second reactor; and

(j) hydrogenating the living block copolymer to form a hydrogenated conjugated diene block copolymer using a cobalt hydrogenation catalyst.

21. (New) The process of Claim 20 wherein the microstructure control agent is present in a concentration such that the rate of polymer chain propagation substantially exceeds the rate of chain die-out.

22. (New) The process of Claim 21 wherein the microstructure control agent is diethyl ether that is present in step (a) at a concentration of from about 6 to about 9 percent.

23. (New) The process of Claim 21 wherein the alkenyl aromatic hydrocarbon is styrene and the conjugated diene monomer is butadiene.

24. (New) The process of Claim 23 wherein the block copolymer is a triblock having a structure of styrene-butadiene-styrene.

25. (New) The process of Claim 23 wherein the anionic polymerization initiator is sec-butyl lithium.

26. (New) The process of Claim 20 wherein the microstructure control agent is an aliphatic monoether selected from the group consisting of diethyl ether, dimethyl ether, dibutyl ether and mixtures thereof.

27. (New) The process of Claim 20 wherein the microstructure control agent is a cyclic ether selected from the group consisting of tetrahydrofuran, tetrahydropyran, 1,4-dioxane and mixtures thereof.

28. (New) The process of Claim 20 wherein the microstructure control agent is an aliphatic polyether selected from the group consisting of ethylene glycol dimethyl ether, ethylene glycol diethyl ether, ethylene glycol dibutyl ether, diethylene glycol diethyl ether, diethylene glycol dibutyl ether and mixtures thereof.

29. (New) The process of Claim 20 wherein the microstructure control agent is a tertiary amine compound selected from the group consisting of triethyl amine, tripropyl amine, tributyl amine and mixtures thereof.